

NEW TRENDS IN CARDIOVASCULAR THERAPY

HIGHLIGHTS



Fondazione
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Menarini

***February 19-21, 2015
Rome***

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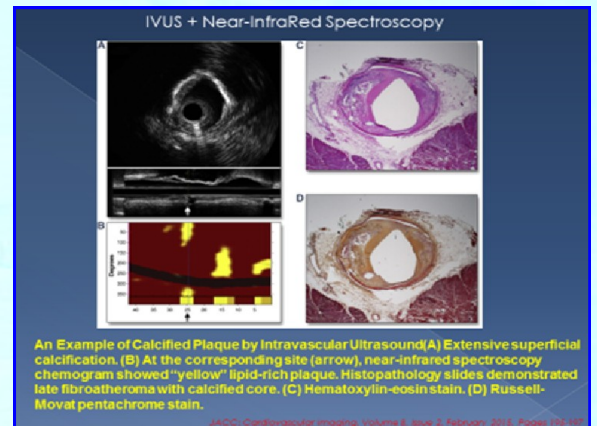


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“Evolution of diagnostic imaging in cardiology” Present and future

Imaging techniques have radically changed diagnostic procedures in medicine, especially in Cardiology, claims Prof. Cesare Greco. The dramatic improvement in technology has enabled use of these techniques not only to detect the presence of structural alterations of the heart, but also to assess the biological and haemodynamic status of the heart. In this way, it is possible to make early diagnoses and also study the cell and molecular mechanisms involved in cardiovascular disease in the aim of optimising the therapeutic approach. Innovative techniques such as IVUS, OCT, and FFR have made allowed for perfecting diagnosis increasingly more due to discriminating between stable plaque and instable plaque at the risk of rupturing (IVUS), and for clearly highlighting the internal vascular structure with accurate differentiation of the intima from the media and the adventitia.



What is the future of these imaging techniques? What scenarios will open up with the development of 3D and 4D techniques?

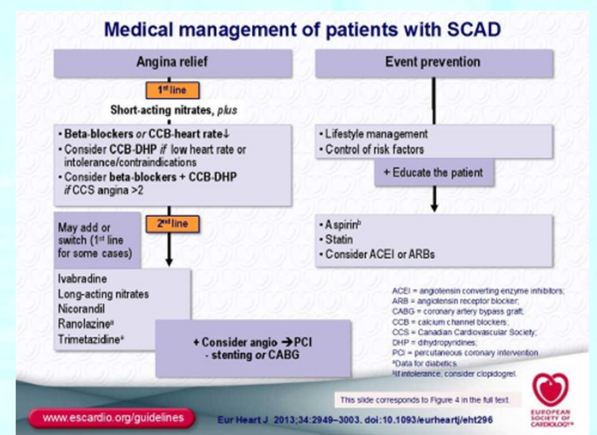
For more in-depth information click on the following link: www.fondazione-menarini.it/... and after having logged in, access the multimedia material.



Cesare Greco
Rome (Italy)

Angina therapy: which associations for the best treatment?

Despite the widespread efforts of interventional heart therapy, ischaemic disease is still one of the main public health problems. In fact, its prevalence in western countries remains steady at 12% of the population over the age of 65, claims by Prof. Ceconi. The treatment of ischaemic disease is divided into cardioprotective therapy aimed at preventing complications, and anti-anginal treatment that targets improvement of the symptoms, as well as the quality of life and capacity for physical exercise. Among the classes of pharmaceutical products to be used in these patients, a prominent role must be reserved for the beta-blockers, the ACE-inhibitors, the Statins and Aspirin. Finally, there are also new classes of drugs that act directly at a myocyte level, intervening on the intracellular metabolism.



Claudio Ceconi
Ferrara (Italy)

What is the action of these new drugs and are they all effective in treating heart disease?

To answer these questions click on this link: www.fondazione-menarini.it/... and after having logged in, access the multimedia material.

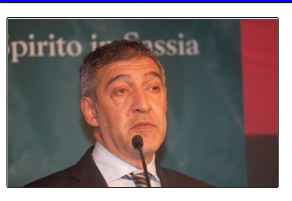
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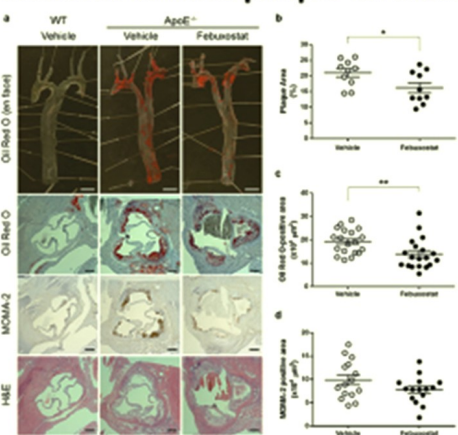


Maurizio Volterrani
Rome (Italy)

Hypouricaemic therapy and cardiovascular disease: new prospects

The correlation between hyperuricaemia and cardiovascular disease is by now a given fact in literature. Hyperuricaemia is an independent cardiovascular risk factor, as stated by Prof. Volterrani. What is the link between hyperuricaemia and cardiovascular disease? The central metabolic pathway is the activation of xanthine oxidase. In fact while on one hand this enzyme activates the intracellular synthesis of uric acid, on the other it gives rise to an increase in the oxygen free radicals, which, at a vascular level, are among the main agents responsible for endothelial dysfunction which in turn causes arterial hypertension and cardiovascular disease. In therapeutic terms therefore, it is not enough just to determine the reduction in plasmatic levels of uric acid and it also becomes essential to reduce the xanthine oxidase activity. In this regard it is important to emphasise the existence of febuxostat, a drug able to reduce the plasmatic levels of uric acid via inhibition of the xanthine oxidase. Studies on rats have been published where the administration of febuxostat has inhibited the formation of atherosclerotic plaque at a vascular level.

Febuxostat inhibits plaque formation



Nomura J, Sci Rep. 2014

What is the level of uricaemia that exposes patients to an increased risk of cardiovascular disease?

To answer these and other questions click on this link: [www.fondazione-menarini.it/...](http://www.fondazione-menarini.it/) and after having logged in, access the multimedia material.

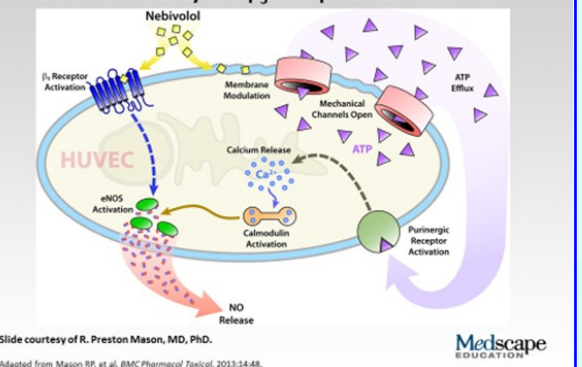


Vincenzo Mollace
Catanzaro (Italy)

Nitric Oxide and new generation Beta blockers: what is the correlation?

As described in detail by Prof. Mollace, nitric oxide plays a fundamental role at a vascular level, on one hand promoting vasodilatation, remodelling and vascular elasticity, and on the other, inhibiting cell proliferation, cell apoptosis and pro-inflammatory factors. The inhibition of nitric oxide causes hypertension, dyslipidaemia and cardiovascular disease. The pharmacological approach to the endothelial dysfunction involves anti-hypertensive drugs as well as lipid-lowering drugs, such as statins, ACE-inhibitors, some calcium antagonists and the new generation beta-blockers.

Nebivolol Stimulates NO Release Through ATP-Dependent Autocrine Pathway and β_3 -Receptor Activation



Slide courtesy of R. Preston Mason, MD, PhD.
Adapted from Mason RP, et al. BMC Pharmacol Toxicol. 2013;14:48.

Medscape
EDUCATION

What is the action mechanism of these new beta-blockers and what is their effect on the endothelial dysfunction?

To answer these questions click on this link: [www.fondazione-menarini.it/...](http://www.fondazione-menarini.it/) and after having logged in, access the multimedia material.

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Antidiabetic therapy: what's new?

As explained by Prof. Seferovic, diabetes is still surrounded by hard-to-solve problems. When should we start to treat diabetes and with what? Indeed, once this disease has taken hold, it is characterised by a "continuum" of events that give rise to progressive cardiovascular deterioration with increasingly more serious complications, in turn responsible for disability and death. It can therefore be claimed that cardiovascular disease and diabetes are two sides of the same coin. In addition, optimal blood sugar control even in diabetic patients cannot be translated into a reduction in cardiovascular mortality. The optimal drugs for treating diabetes, should on one hand maintain the blood sugar and associated parameters at the lowest possible level, and on the other, determine a reduction in the parameters, for example the lipoproteins, that effectively help keep the evolution of cardiovascular disease under control.

Can the new therapeutic aids on the market for treating diabetes come close to this ideal drug? To answer these questions click on this link: [www.fondazione-menarini.it/...](http://www.fondazione-menarini.it/) and after having logged in, access the multimedia material.

Key Classes of Glucose Lowering Agents

Biguanides	Metformin
Sulfonylureas (SU)	Glipizide, Glimiperide
Thiazolidinediones (TZDs)	Pioglitazone, Rosiglitazone
GLP-1 Agonists	Exenatide, Liraglutide
DPP-4 Inhibitors	Saxagliptin, Sitagliptin
SGLT-2 Inhibitors	Dapagliflozin, Canagliflozin

*GLP-1: glucagon-like peptide-1; DPP-4: dipeptidyl peptidase-4; SGLT-2: sodium-glucose co-transporter 2



Petar Seferovic
Belgrade (Servia)

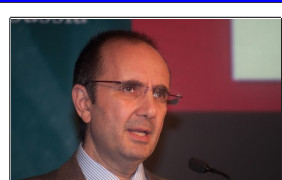
The diagnostic/prognostic situation of angina: is the traditional approach satisfactory?

Angina is one of the main symptoms of heart disease, and its diffusion is now global. It is even on the rise in those countries that are historically not affected by diseases with an atherosclerotic aetiology. In fact, Prof. Rosano has indicated how the new generations in Africa are suffering increasingly more from heart disease caused by the complications linked to retroviral therapy in subjects with AIDS. As a result, while mortality due to heart disease has dropped dramatically in the western world,

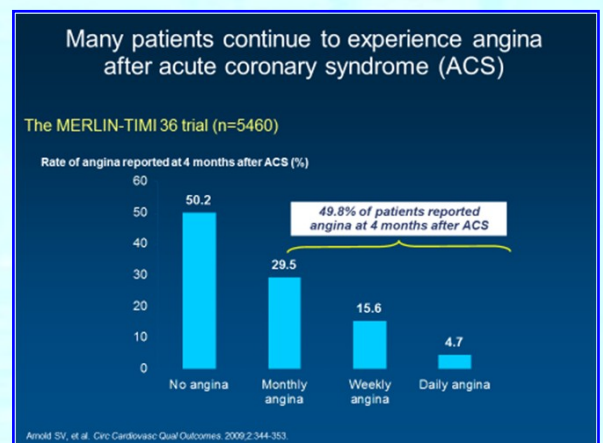
in Africa for example, it has increased. Some categories of patients are particularly at risk, such as diabetic patients who due to the complications of the underlying disease, cannot be completely revascularised. The presence of ischaemia doubles the risk of future events in patients suffering from angina, compared to patients who only suffer from angina. Moreover, this pathological situation is often underestimated. In recent years, a few new drugs have been authorised in the treatment of angina, one of which is Ranolazine.

What are the strategies for a correct diagnostic/prognostic approach to angina?

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Giuseppe Rosano
London (UK)



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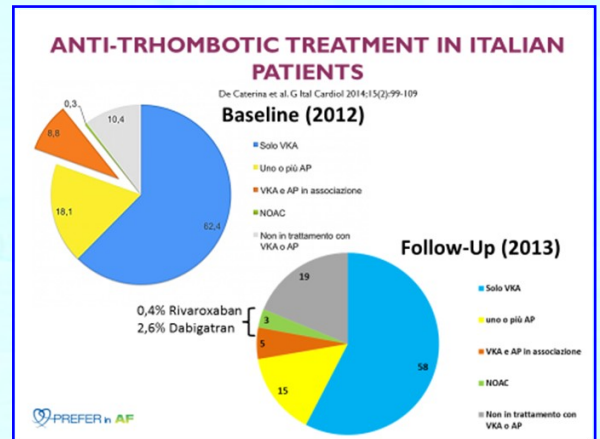


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A glance at the new oral anticoagulants, state of the art and future prospects

As pointed out by Prof. Filardi, new oral anticoagulants have been introduced late into Italy due to the fact that our country was one of the last European countries to allow their prescribing under the National Health System. From comparative studies with Warfarin, the new oral anticoagulants have demonstrated a greater effectiveness in preventing thrombotic vascular events and stroke in patients with atrial fibrillation, also in the presence of heart failure. Moreover, these new drugs expose patients to a significantly lower risk of bleeding, including intracranial haemorrhaging. From recently published data it emerges that there is still a relevant percentage of patients in Italy suffering from atrial fibrillation who are inappropriately treated with anti-platelet agents to prevent strokes. The same data also demonstrate that only 60% of subjects with atrial fibrillation are treated with oral anticoagulants. More recently, updated data indicate that only 3% of Italian patients suffering from atrial fibrillation are currently treated with the new oral anticoagulants.



Pasquale Perrone
Filardi
Napoli (Italy)

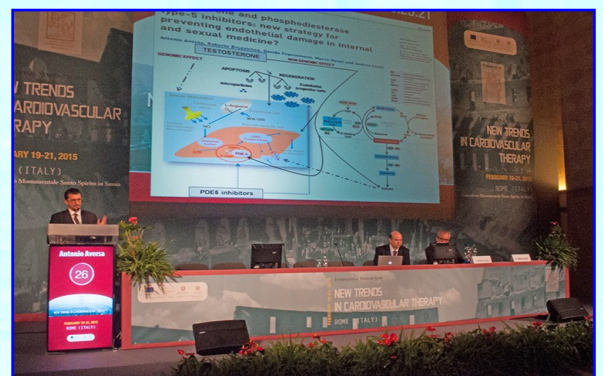
What initiatives should be pursued to improve therapeutic strategies in our country?

For more in-depth information click on the following link: [www.fondazione-menarini.it/...](http://www.fondazione-menarini.it/) and after having logged in, access the multimedia material.

These are just a few of the topics discussed during the congress. For more in-depth information please enter the website of the Fondazione Internazionale Menarini which contains the full versions of the congress talks.

Go to the following link:

<http://www.en.fondazione-menarini.it/Archived-News/2015/New-Trends-in-Cardiovascular-Therapy/Multimedia-Content.....> and after having logged in, access the multimedia



Fondazione Internazionale Menarini

Edificio L - Strada 6 Centro Direzionale Milanofiori 20089 Rozzano (MI)

Tel. +39 02 55308110 Fax +39 02 55305739 Email: milan@fondazione-menarini.it

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